



#4

1

SEQUENCE LISTING

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<110> LADNER, ROBERT C.
COHEN, EDWARD H.
NASTRI, HORACIO G.
ROOKEY, KRISTIN L.
HOET, RENE

<120> NOVEL METHODS OF CONSTRUCTING LIBRARIES OF GENETIC
PACKAGES THAT COLLECTIVELY DISPLAY THE MEMBERS OF A
DIVERSE FAMILY OF PEPTIDES, POLYPEPTIDES OR PROTEINS

<130> DYAX/002

<140> 09/837,306

<141> 2001-04-17

<150> 60/198,069

<151> 2000-04-17

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<223> Description of Artificial Sequence: Probe

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<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Probe

<400> 98

cggcatatct gcagatctgc ag

22

<210> 99
<211> 22
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Probe

<400> 99

cggcgatatct gcaaataaac ag

22

<210> 100

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Probe

<400> 100

ctgcctacct gcagtggagc ag

22

<210> 101

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Probe

<400> 101

tcgcctatct gcaaataaac ag

22

<210> 102

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 102

agttctccct gcagctgaac tc

22

<210> 103

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 103

ttctccctgc agctgaactc

20

<210> 104

<211> 18

<212> DNA

<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 104
ttctccctgc agctgaac 18

<210> 105
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 105
cgctgtatct gcaaataaac ag 22

<210> 106
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 106
ctgtatctgc aaataaacag 20

<210> 107
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 107
ctgtatctgc aaataaac 18

<210> 108
<211> 22
<212> DNA
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<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 108

cactgtatct gcaaataaac ag

22

<210> 109

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 109

ccgcctacct gcagtggagc ag

22

<210> 110

<211> 42

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 110

cgcttcacta agtctagaga caactctaag aatactctct ac

42

<210> 111

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 111

ttgcagatga acagcttaag g

21

<210> 112

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 112

caagtagaga gtattcttag agttgtctct agacttagtg aagcg

45

<210> 113

<211> 54

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 113

cgcttcacta agtctagaga caactctaag aatactctct acttgacgt gaac 54

<210> 114

<211> 54

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 114

cgcttcacta agtctagaga caactctaag aatactctct acttgcaaat gaac 54

<210> 115

<211> 54

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 115

cgcttcacta agtctagaga caactctaag aatactctct acttgacgtg gac 54

<210> 116

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 116

cgcttcacta agtctagaga c 21

<210> 117

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Probe

<400> 117

acatggagct gagcagcctg ag

22

<210> 118

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Probe

<400> 118

acatggagct gagcaggctg ag

22

<210> 119

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Probe

<400> 119

acatggagct gaggagcctg ag

22

<210> 120

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Probe

<400> 120

acctgcagtg gagcagcctg aa

22

<210> 121

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Probe

<400> 121

atctgcaaat gaacagcctg aa

22

<210> 122

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Probe

<400> 122

atctgcaaat gaacagcctg ag

22

<210> 123

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Probe

<400> 123

atctgcaaat gaacagtctg ag

22

<210> 124

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Probe

<400> 124

atctgcagat ctgcagccta aa

22

<210> 125

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Probe

<400> 125

atcttcaaat gaacagcctg ag

22

<210> 126

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Probe

<400> 126

atcttcaaat gggcagcctg ag

22

<210> 127

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Probe

<400> 127

ccctgaagct gagctctgtg ac

22

<210> 128

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Probe

<400> 128

ccctgcagct gaactctgtg ac

22

<210> 129

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Probe

<400> 129

tccttacaat gaccaacatg ga

22

<210> 130

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Probe

<400> 130

tccttaccat gaccaacatg ga

22

<210> 131

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 131

acatggagct gagcagcctg ag

22

<210> 132
<211> 22
<212> DNA
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<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 132
ccctgaagct gagctctgtg ac

22

<210> 133
<211> 54
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<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 133
cgcttcacta agtctagaga caactctaag aatactctct acttgcagat gaac

54

<210> 134
<211> 60
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 134
cgcttcactc agtctagaga taacagtaaa aatactttgt acttgcagct gagcagcctg 60

<210> 135
<211> 60
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 135
cgcttcactc agtctagaga taacagtaaa aatactttgt acttgcagct gagctctgtg 60

<210> 136
<211> 52
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 136
tcagctgcaa gtacaaagta tttttactgt tatctctaga ctgagtgaag cg 52

<210> 137
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 137
cgcttcactc agtctagaga taac 24

<210> 138
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 138
ccgtgtatta ctgtgcgaga ga 22

<210> 139
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 139
ctgtgtatta ctgtgcgaga ga 22

<210> 140
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 140
ccgtgtatta ctgtgcgaga gg 22

<210> 141
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 141
ccgtgtatta ctgtgcaaca ga

22

<210> 142
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 142
ccatgtatta ctgtgcaaga ta

22

<210> 143
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 143
ccgtgtatta ctgtgaggca ga

22

<210> 144
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 144
ccacatatta ctgtgcacac ag

22

<210> 145
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<220>
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oligonucleotide

<400> 145
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<210> 146
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oligonucleotide

<400> 146
ccacgtatta ctgtgcacgg at 22

<210> 147
<211> 22
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oligonucleotide

<400> 147
ccttgatatta ctgtgcaaaa ga 22

<210> 148
<211> 22
<212> DNA
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oligonucleotide

<400> 148
ctgtgtatta ctgtgcaaga ga 22

<210> 149
<211> 22
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oligonucleotide

<400> 149

ccgtgtatta ctgtaccaca ga 22

<210> 150
<211> 22
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oligonucleotide

<400> 150
ccttgatca ctgtgcgaga ga 22

<210> 151
<211> 22
<212> DNA
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oligonucleotide

<400> 151
ccgtatatta ctgtgcgaaa ga 22

<210> 152
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 152
ctgtgtatta ctgtgcgaaa ga 22

<210> 153
<211> 22
<212> DNA
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<220>
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oligonucleotide

<400> 153
ccgtgtatta ctgtactaga ga 22

<210> 154
<211> 22
<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 154

ccgtgtatta ctgtgctaga ga

22

<210> 155

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 155

ccgtgtatta ctgtactaga ca

22

<210> 156

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 156

ctgtgtatta ctgtaagaaa ga

22

<210> 157

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 157

ccgtgtatta ctgtgcgaga aa

22

<210> 158

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 158
ccgtgtatta ctgtgccaga ga 22

<210> 159
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 159
ctgtgtatta ctgtgcgaga ca 22

<210> 160
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 160
ccatgtatta ctgtgcgaga ca 22

<210> 161
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 161
ccatgtatta ctgtgcgaga 20

<210> 162
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 162
ccgtgtatta ctgtgcgaga g 21

<210> 163

<211> 21
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 163

ctgtgtatta ctgtgcgaga g

21

<210> 164

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 164

ccgtgtatta ctgtgcgaga g

21

<210> 165

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 165

ccgtatatta ctgtgcgaaa g

21

<210> 166

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 166

ctgtgtatta ctgtgcgaaa g

21

<210> 167

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 167

ctgtgtatta ctgtgcgaga c

21

<210> 168

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 168

ccatgtatta ctgtgcgaga c

21

<210> 169

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 169

ccatgtatta ctgtgcgaga

20

<210> 170

<211> 94

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 170

ggtgtagtga tctagtga actctaagaa tactctctac ttgcagatga acagcttttag 60
ggctgaggac actgcagtct actattgtgc gaga 94

<210> 171

<211> 94

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 171

ggtgtagtga tctagtgaca actctaagaa tactctctac ttgcagatga acagctttag 60
 ggctgaggac actgcagtct actattgtgc gaaa 94

<210> 172
 <211> 85
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 172
 atagtagact gcagtgtcct cagcccttaa gctgttcac tgcaagtaga gagtattctt 60
 agagttgtct ctagatcact acacc 85

<210> 173
 <211> 22
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 173
 ggtgtagtga tctagagaca ac 22

<210> 174
 <211> 55
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 174
 ggtgtagtga aacagcttta gggctgagga cactgcagtc tactattgtg cgaga 55

<210> 175
 <211> 55
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 175
 ggtgtagtga aacagcttta gggctgagga cactgcagtc tactattgtg cgaaa 55

<210> 176

<211> 46
 <212> DNA
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 176

atagtagact gcagtgtcct cagcccttaa gctgtttcac tacacc

46

<210> 177

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 177

ggtgtagtga aacagcttaa gggctg

26

<210> 178

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 178

cacatccgtg ttgttcacgg atgtg

25

<210> 179

<211> 88

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 179

aatagtagac tgcagtgtcc tcagccctta agctgttcat ctgcaagtag agagtattct 60
 tagagttgtc tctagactta gtgaagcg 88

<210> 180

<211> 95

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 180

cgcttcacta agtctagaga caactctaag aatactctct acttgcagat gaacagctta 60
agggtgagg acactgcagt ctactattgt gcgag 95

<210> 181

<211> 95

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 181

cgcttcacta agtctagaga caactctaag aatactctct acttgcagat gaacagctta 60
agggtgagg acactgcagt ctactattgt acgag 95

<210> 182

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 182

cgcttcacta agtctagaga caac 24

<210> 183

<211> 419

<212> DNA

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: V3-23

<400> 183

ctgtctgaac ggcccagccg gccatggccg aagttcaatt gttagagtct ggtggcggtc 60
ttgttcagcc tgggtggttct ttacgtcttt ctgcgctgc ttccggattc actttctctt 120
cgtacgctat gtcttgggtt cgccaagctc ctggtaaagg tttggagtgg gtttctgcta 180
tctctgggtc tgggtggcagt acttactatg ctgactccgt taaaggtcgc ttcactatct 240
ctagagacaa ctctaagaat actctctact tgcagatgaa cagcttaagg gctgaggaca 300
ctgcagtcta ctattgcgt aaagactatg aagggtactgg ttatgctttc gacatatggg 360
gtcaagggtac tatggtcacc gtctctagtg cctccaccaa gggcccatcg gtcttcccc 419

<210> 184

<211> 136

<212> PRT

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: V3-23

<400> 184

Ala Gln Pro Ala Met Ala Glu Val Gln Leu Leu Glu Ser Gly Gly Gly
 1 5 10 15

Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
 20 25 30

Phe Thr Phe Ser Ser Tyr Ala Met Ser Trp Val Arg Gln Ala Pro Gly
 35 40 45

Lys Gly Leu Glu Trp Val Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr
 50 55 60

Tyr Tyr Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn
 65 70 75 80

Ser Lys Asn Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp
 85 90 95

Thr Ala Val Tyr Tyr Cys Ala Lys Asp Tyr Glu Gly Thr Gly Tyr Ala
 100 105 110

Phe Asp Ile Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser Ala Ser
 115 120 125

Thr Lys Gly Pro Ser Val Phe Pro
 130 135

<210> 185

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 185

ctgtctgaac ggcccagccg

20

<210> 186

<211> 83

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 186

ctgtctgaac ggcccagccg gccatggccg aagttcaatt gttagagtct ggtggcggtc 60
 ttgttcagcc tgggtggttct tta 83

<210> 187
 <211> 54
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 187
 gaaagtgaat ccggaagcag cgcaagaaag acgtaaagaa ccaccaggct gaac 54

<210> 188
 <211> 42
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 188
 agaaaccac tccaaacctt taccaggagc ttggcgaacc ca 42

<210> 189
 <211> 94
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 189
 agtgtcctca gcccttaagc tgttcacatctg caagtagaga gtattcttag agttgtctct 60
 agagatagtg aagcgacctt taacggagtc agca 94

<210> 190
 <211> 81
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 190
 gcttaagggc tgaggacact gcagtctact attgcgctaa agactatgaa ggtactgggtt 60
 atgctttcga catatggggt c 81

<210> 191
 <211> 75
 <212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 191

ggggaagacc gatgggcctt tgggtggaggc actagagacg gtgaccatag taccttgacc 60
ccatatgtcg aaagc 75

<210> 192

<211> 47

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 192

gcttccggat tcactttctc ttacatgtgg gttcgccaag ctctctgg 47

<210> 193

<211> 53

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 193

ggtttgagat gggtttctat ctctgggtggc acttatgctg actccggtta agg 53

<210> 194

<211> 9472

<212> DNA

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: MALIA3

<400> 194

aatgctacta ctattagtag aattgatgcc accttttcag ctgcgcgccc aaatgaaaat 60
atagctaaac aggttattga ccatttgcca aatgtatcta atgggtcaaac taaatctact 120
cgttcgcaga attgggaatc aactgttaca tggaatgaaa cttccagaca ccgtacttta 180
gttgcatatt taaaacatgt tgagctacag caccagattc agcaattaag ctctaagcca 240
tccgcaaaaa tgacctctta tcaaaaaggag caattaaagg tactctctaa tcctgacctg 300
tctttcgggc ttctctctaa tctttttgat gcaatccgct ttgcttctga ctataatagt 360
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<212> PRT

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<223> Description of Unknown Organism: MALIA3

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His Ser Ala Gln

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Ala	Gln	Pro	Ala	Met	Ala	Glu	Val	Gln	Leu	Leu	Glu	Ser	Gly	Gly	Gly	20	25	30	
Leu	Val	Gln	Pro	Gly	Gly	Ser	Leu	Arg	Leu	Ser	Cys	Ala	Ala	Ser	Gly	35	40	45	
Phe	Thr	Phe	Ser	Ser	Tyr	Ala	Met	Ser	Trp	Val	Arg	Gln	Ala	Pro	Gly	50	55	60	
Lys	Gly	Leu	Glu	Trp	Val	Ser	Ala	Ile	Ser	Gly	Ser	Gly	Gly	Ser	Thr	65	70	75	80
Tyr	Tyr	Ala	Asp	Ser	Val	Lys	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn	85	90	95	
Ser	Lys	Asn	Thr	Leu	Tyr	Leu	Gln	Met	Asn	Ser	Leu	Arg	Ala	Glu	Asp	100	105	110	
Thr	Ala	Val	Tyr	Tyr	Cys	Ala	Lys	Asp	Tyr	Glu	Gly	Thr	Gly	Tyr	Ala	115	120	125	
Phe	Asp	Ile	Trp	Gly	Gln	Gly	Thr	Met	Val	Thr	Val	Ser	Ser	Ala	Ser	130	135	140	
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Ser	Gly	Gly	Thr	Ala	Ala	Leu	Gly	Cys	Leu	Val	Lys	Asp	Tyr	Phe	Pro	165	170	175	
Glu	Pro	Val	Thr	Val	Ser	Trp	Asn	Ser	Gly	Ala	Leu	Thr	Ser	Gly	Val	180	185	190	
His	Thr	Phe	Pro	Ala	Val	Leu	Gln	Ser	Ser	Gly	Leu	Tyr	Ser	Leu	Ser	195	200	205	
Ser	Val	Val	Thr	Val	Pro	Ser	Ser	Ser	Leu	Gly	Thr	Gln	Thr	Tyr	Ile	210	215	220	
Cys	Asn	Val	Asn	His	Lys	Pro	Ser	Asn	Thr	Lys	Val	Asp	Lys	Lys	Val	225	230	235	240
Glu	Pro	Lys	Ser	Cys	Ala	Ala	Ala	His	His	His	His	His	His	Ser	Ala	245	250	255	
Glu	Gln	Lys	Leu	Ile	Ser	Glu	Glu	Asp	Leu	Asn	Gly	Ala	Ala	Asp	Ile	260	265	270	
Asn	Asp	Asp	Arg	Met	Ala	Ser	Gly	Ala	Ala	Glu	Thr	Val	Glu	Ser	Cys	275	280	285	
Leu	Ala	Lys	Pro	His	Thr	Glu	Ile	Ser	Phe	Thr	Asn	Val	Trp	Lys	Asp	290	295	300	
Asp	Lys	Thr	Leu	Asp	Arg	Tyr	Ala	Asn	Tyr	Glu	Gly	Cys	Leu	Trp	Asn				

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 Ala Thr Gly Val Val Val Cys Thr Gly Asp Glu Thr Gln Cys Tyr Gly
 325 330 335
 Thr Trp Val Pro Ile Gly Leu Ala Ile Pro Glu Asn Glu Gly Gly Gly
 340 345 350
 Ser Glu Gly Gly Gly Ser Glu Gly Gly Gly Ser Glu Gly Gly Gly Thr
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<213> Unknown Organism

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 Lys Leu Asp Ser Val Ala Thr Asp Tyr Gly Ala Ala Ile Asp Gly Phe
 35 40 45
 Ile Gly Asp Val Ser Gly Leu Ala Asn Gly Asn Gly Ala Thr Gly Asp
 50 55 60
 Phe Ala Gly Ser Asn Ser Gln Met Ala Gln Val Gly Asp Gly Asp Asn
 65 70 75 80
 Ser Pro Leu Met Asn Asn Phe Arg Gln Tyr Leu Pro Ser Leu Pro Gln
 85 90 95
 Ser Val Glu Cys Arg Pro Phe Val Phe Ser Ala Gly Lys Pro Tyr Glu
 100 105 110
 Phe Ser Ile Asp Cys Asp Lys Ile Asn Leu Phe Arg Gly Val Phe Ala
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<210> 198

<211> 15

<212> PRT

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: MALIA3

<400> 198

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<213> Unknown Organism

<220>

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Val Gly Arg Phe Ala Lys Thr Pro Arg Val Leu Arg Ile Pro Asp Lys
35 40 45

Pro Ser Ile Ser Asp Leu Leu Ala Ile Gly Arg Gly Asn Asp Ser Tyr
50 55 60

Asp Glu Asn Lys Asn Gly Leu Leu Val Leu Asp Glu Cys Gly Thr Trp
65 70 75 80

Phe Asn Thr Arg Ser Trp Asn Asp Lys Glu Arg Gln Pro Ile Ile Asp
85 90 95

Trp Phe Leu His Ala Arg Lys Leu Gly Trp Asp Ile Ile Phe Leu Val
100 105 110

Gln Asp Leu Ser Ile Val Asp Lys Gln Ala Arg Ser Ala Leu Ala Glu
115 120 125

His Val Val Tyr Cys Arg Arg Leu Asp Arg Ile Thr Leu Pro Phe Val
130 135 140

Gly Thr Leu Tyr Ser Leu Ile Thr Gly Ser Lys Met Pro Leu Pro Lys
145 150 155 160

Leu His Val Gly Val Val Lys Tyr Gly Asp Ser Gln Leu Ser Pro Thr
165 170 175

Val Glu Arg Trp Leu Tyr Thr Gly Lys Asn Leu Tyr Asn Ala Tyr Asp
180 185 190

Thr Lys Gln Ala Phe Ser Ser Asn Tyr Asp Ser Gly Val Tyr Ser Tyr
195 200 205

Leu Thr Pro Tyr Leu Ser His Gly Arg Tyr Phe Lys Pro Leu Asn Leu
210 215 220

Gly Gln Lys Met Lys Leu Thr Lys Ile Tyr Leu Lys Lys Phe Ser Arg
 225 230 235 240

Val Leu Cys Leu Ala Ile Gly Phe Ala Ser Ala Phe Thr Tyr Ser Tyr
 245 250 255

Ile Thr Gln Pro Lys Pro Glu Val Lys Lys Val Val Ser Gln Thr Tyr
 260 265 270

Asp Phe Asp Lys Phe Thr Ile Asp Ser Ser Gln Arg Leu Asn Leu Ser
 275 280 285

Tyr Arg Tyr Val Phe Lys Asp Ser Lys Gly Lys Leu Ile Asn Ser Asp
 290 295 300

Asp Leu Gln Lys Gln Gly Tyr Ser Leu Thr Tyr Ile Asp Leu Cys Thr
 305 310 315 320

Val Ser Ile Lys Lys Gly Asn Ser Asn Glu Ile Val Lys Cys Asn
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<210> 200

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<220>

<223> Description of Unknown Organism: MALIA3

<400> 200

Met Lys Leu Leu Asn Val Ile Asn Phe Val
 1 5 10

<210> 201

<211> 90

<212> DNA

<213> Homo sapiens

<400> 201

actatctcta gagacaactc taagaatact ctctacttgc agatgaacag cttaagggct 60
 gaggacactg cagtctacta ttgcgctaaa 90

<210> 202

<211> 30

<212> PRT

<213> Homo sapiens

<400> 202

Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln Met Asn
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Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Lys
 20 25 30

<210> 203
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<223> a, t, c, g, other or unknown

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<223> a, t, c, g, other or unknown

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gargayacng cngtntayta ytgygcnaar 90

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<211> 90

<212> DNA

<213> Homo sapiens

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tcctgcaagg cttctggata caccttcacc 90

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<211> 90

<212> DNA

<213> Homo sapiens

<400> 205

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tcctgcaagg cttctggata caccttcact 90

<210> 206

<211> 90

<212> DNA

<213> Homo sapiens

<400> 206

caggtgcagc tgggtgcagtc tggggctgag gtgaagaagc ctggggcctc agtgaagggtc 60
tcctgcaagg cttctggata caccttcacc 90

<210> 207

<211> 90

<212> DNA

<213> Homo sapiens

<400> 207

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tcctgcaagg cttctgggta cacctttacc 90

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<211> 90

<212> DNA

<213> Homo sapiens

<400> 208

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tcctgcaagg ttcccgata caccctcact 90

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<211> 90
<212> DNA
<213> Homo sapiens

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tcctgcaagg cttccgata caccttcacc 90

<210> 210
<211> 90
<212> DNA
<213> Homo sapiens

<400> 210
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tcctgcaagg catctggata caccttcacc 90

<210> 211
<211> 90
<212> DNA
<213> Homo sapiens

<400> 211
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tcctgcaagg cttctggatt cacctttact 90

<210> 212
<211> 90
<212> DNA
<213> Homo sapiens

<400> 212
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tcctgcaagg cttctggagg caccttcagc 90

<210> 213
<211> 90
<212> DNA
<213> Homo sapiens

<400> 213
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tcctgcaagg cttctggagg caccttcagc 90

<210> 214
<211> 90
<212> DNA

<213> Homo sapiens

<400> 214

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tcctgcaagg tttctggata caccttcacc 90

<210> 215

<211> 90

<212> DNA

<213> Homo sapiens

<400> 215

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acctgcacct tctctgggtt ctcactcagc 90

<210> 216

<211> 90

<212> DNA

<213> Homo sapiens

<400> 216

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acctgcaccc tctctgggtt ctcactcagc 90

<210> 217

<211> 90

<212> DNA

<213> Homo sapiens

<400> 217

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acctgcacct tctctgggtt ctcactcagc 90

<210> 218

<211> 90

<212> DNA

<213> Homo sapiens

<400> 218

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tcctgtgcag cctctggatt cacctttagt 90

<210> 219

<211> 90

<212> DNA

<213> Homo sapiens

<400> 219

gaagtgcagc tgggtggagtc tgggggaggc ttgggtacagc ctgggcaggtc cctgagactc 60
tcctgtgcag cctctggatt cacctttgat 90

<210> 220

<211> 90
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 <213> Homo sapiens

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 tcctgtgcag cctctggatt caccttcagt 90

<210> 221
 <211> 90
 <212> DNA
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<210> 222
 <211> 90
 <212> DNA
 <213> Homo sapiens

<400> 222
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<210> 223
 <211> 90
 <212> DNA
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<400> 223
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<210> 224
 <211> 90
 <212> DNA
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<400> 224
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 tcctgtgcag cctctggatt caccttcagt 90

<210> 225
 <211> 90
 <212> DNA
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<400> 225
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 tcctgtgcag cctctggatt cacctttagc 90

<210> 226
<211> 90
<212> DNA
<213> Homo sapiens

<400> 226
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tcctgtgcag cctctggatt caccttcagt 90

<210> 227
<211> 90
<212> DNA
<213> Homo sapiens

<400> 227
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tcctgtgcag cctctggatt caccttcagt 90

<210> 228
<211> 90
<212> DNA
<213> Homo sapiens

<400> 228
caggtgcagc tgggtggagtc tgggggaggc gtggtccagc ctgggaggtc cctgagactc 60
tcctgtgcag cctctggatt caccttcagt 90

<210> 229
<211> 90
<212> DNA
<213> Homo sapiens

<400> 229
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tcctgtgcag cgtctggatt caccttcagt 90

<210> 230
<211> 90
<212> DNA
<213> Homo sapiens

<400> 230
gaagtgcagc tgggtggagtc tgggggagtc gtggtacagc ctgggggggc cctgagactc 60
tcctgtgcag cctctggatt cacctttgat 90

<210> 231
<211> 90
<212> DNA
<213> Homo sapiens

<400> 231

gaggtgcagc tgggtggagtc tggggggaggc ttggtacagc ctgggggggtc cctgagactc 60
 tcctgtgcag cctctggatt caccttcagt 90

<210> 232
 <211> 90
 <212> DNA
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<400> 232
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 tcctgtacag cttctggatt cacctttggt 90

<210> 233
 <211> 90
 <212> DNA
 <213> Homo sapiens

<400> 233
 gaggtgcagc tgggtggagac tggaggaggc ttgatccagc ctgggggggtc cctgagactc 60
 tcctgtgcag cctctgggtt caccgtcagt 90

<210> 234
 <211> 90
 <212> DNA
 <213> Homo sapiens

<400> 234
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 tcctgtgcag cctctggatt caccttcagt 90

<210> 235
 <211> 90
 <212> DNA
 <213> Homo sapiens

<400> 235
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 tcctgtgcag cctctggatt caccgtcagt 90

<210> 236
 <211> 90
 <212> DNA
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<400> 236
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 tcctgtgcag cctctggatt caccttcagt 90

<210> 237
 <211> 90
 <212> DNA

<213> Homo sapiens

<400> 237

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tcctgtgcag cctctggggtt caccttcagt                                     90
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<210> 238

<211> 90

<212> DNA

<213> Homo sapiens

<400> 238

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tcctgtgcag cctctggatt caccttcagt                                     90
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<210> 239

<211> 90

<212> DNA

<213> Homo sapiens

<400> 239

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tcctgtgcag cctctggatt caccgtcagt                                     90
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<210> 240

<211> 90

<212> DNA

<213> Homo sapiens

<400> 240

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acctgcgctg tctctggttg ctccatcagc                                     90
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<210> 241

<211> 90

<212> DNA

<213> Homo sapiens

<400> 241

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acctgcgctg tctctggtta ctccatcagc                                     90
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<210> 242

<211> 90

<212> DNA

<213> Homo sapiens

<400> 242

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caggtgcagc tgcaggagtc gggcccagga ctggtgaagc cttcacagac cctgtccctc 60
acctgcactg tctctggttg ctccatcagc                                     90
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<210> 243

<211> 90
 <212> DNA
 <213> Homo sapiens

<400> 243
 cagctgcagc tgcaggagtc cggctcagga ctggtgaagc cttcacagac cctgtccctc 60
 acctgcgctg tctctggtgg ctccatcagc 90

<210> 244
 <211> 90
 <212> DNA
 <213> Homo sapiens

<400> 244
 caggtgcagc tgcaggagtc gggcccagga ctggtgaagc cttcacagac cctgtccctc 60
 acctgcactg tctctggtgg ctccatcagc 90

<210> 245
 <211> 90
 <212> DNA
 <213> Homo sapiens

<400> 245
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 acctgcactg tctctggtgg ctccatcagc 90

<210> 246
 <211> 90
 <212> DNA
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<400> 246
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 acctgcgctg tctatggtgg gtccttcagt 90

<210> 247
 <211> 90
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 acctgcactg tctctggtgg ctccatcagc 90

<210> 248
 <211> 90
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<400> 248
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 acctgcactg tctctggtgg ctccatcagt 90

<210> 249
<211> 90
<212> DNA
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<400> 249
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acctgcactg tctctggtgg ctccgtcagc 90

<210> 250
<211> 90
<212> DNA
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acctgcgctg tctctggtta ctccatcagc 90

<210> 251
<211> 90
<212> DNA
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<400> 251
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tcctgtaagg gttctggata cagctttacc 90

<210> 252
<211> 90
<212> DNA
<213> Homo sapiens

<400> 252
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tcctgtaagg gttctggata cagctttacc 90

<210> 253
<211> 90
<212> DNA
<213> Homo sapiens

<400> 253
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acctgtgcca tctccgggga cagtgtctct 90

<210> 254
<211> 90
<212> DNA
<213> Homo sapiens

<400> 254

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<210> 255
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 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Probe

<400> 255
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<210> 256
 <211> 22
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Probe

<400> 256
 cactgtatct gcaaataaac ag 22

<210> 257
 <211> 22
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<220>
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<400> 257
 ccctgtatct gcaaataaac ag 22

<210> 258
 <211> 22
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<220>
 <223> Description of Artificial Sequence: Probe

<400> 258
 ccgcctacct gcagtggagc ag 22

<210> 259
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<220>

<223> Description of Artificial Sequence: Probe

<400> 259

cgctgtatct gcaaatgaac ag

22

<210> 260

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Probe

<400> 260

cggcatatct gcagatctgc ag

22

<210> 261

<211> 22

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Probe

<400> 261

cggcgtatct gcaaatgaac ag

22

<210> 262

<211> 22

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Probe

<400> 262

ctgcctacct gcagtggagc ag

22

<210> 263

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Probe

<400> 263

tcgcctatct gcaaatgaac ag

22

<210> 264

<211> 22

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 264

acatggagct gagcagcctg ag

22

<210> 265

<211> 22

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 265

acatggagct gagcaggctg ag

22

<210> 266

<211> 22

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 266

acatggagct gaggagcctg ag

22

<210> 267

<211> 22

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 267

acctgcagtg gagcagcctg aa

22

<210> 268

<211> 22

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<223> Description of Artificial Sequence: Synthetic
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<400> 268
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<210> 269
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<400> 269
atctgcaa at gaacagcctg ag 22

<210> 270
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oligonucleotide

<400> 270
atctgcaa at gaacagtctg ag 22

<210> 271
<211> 22
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<400> 271
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<210> 272
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oligonucleotide

<400> 272
atcttcaa at gaacagcctg ag 22

<210> 273
<211> 22

<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 273

atcttcaaat gggcagcctg ag

22

<210> 274

<211> 22

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 274

ccctgaagct gagctctgtg ac

22

<210> 275

<211> 22

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 275

ccctgcagct gaactctgtg ac

22

<210> 276

<211> 22

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 276

tccttacaat gaccaacatg ga

22

<210> 277

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

oligonucleotide

<400> 277
tccttaccat gaccaacatg ga 22

<210> 278
<211> 22
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<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 278
ccgtgtatta ctgtgcgaga ga 22

<210> 279
<211> 22
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oligonucleotide

<400> 279
ctgtgtatta ctgtgcgaga ga 22

<210> 280
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
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<400> 280
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<210> 281
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<220>
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<400> 281
ccgtgtatta ctgtgcaaca ga 22

<210> 282
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<220>
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<400> 282
 ccatgtatta ctgtgcaaga ta 22

<210> 283
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<220>
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<400> 283
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<210> 284
 <211> 22
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 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
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<400> 284
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<210> 285
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<220>
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<400> 285
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<210> 286
 <211> 22
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<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 286

ccacgtatta ctgtgcacgg at

22

<210> 287

<211> 22

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<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 287

ccttgattata ctgtgcaaaa ga

22

<210> 288

<211> 22

<212> DNA

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<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 288

ctgtgtattata ctgtgcaaga ga

22

<210> 289

<211> 22

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 289

ccgtgtattata ctgtaccaca ga

22

<210> 290

<211> 22

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<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 290

ccttgatatca ctgtgcgaga ga

22

<210> 291
 <211> 22
 <212> DNA
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<220>

<223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 291
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22

<210> 292
 <211> 22
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 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 292
 ctgtgtatta ctgtgcgaaa ga

22

<210> 293
 <211> 22
 <212> DNA
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
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<400> 293
 ccgtgtatta ctgtactaga ga

22

<210> 294
 <211> 22
 <212> DNA
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 294
 ccgtgtatta ctgtgctaga ga

22

<210> 295
 <211> 22
 <212> DNA
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 295

ccgtgtatta ctgtactaga ca

22

<210> 296

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 296

ctgtgtatta ctgtaagaaa ga

22

<210> 297

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 297

ccgtgtatta ctgtgcgaga aa

22

<210> 298

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 298

ccgtgtatta ctgtgccaga ga

22

<210> 299

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 299

ctgtgtatta ctgtgcgaga ca 22

<210> 300
 <211> 22
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 300
 ccatgtatta ctgtgcgaga ca 22

<210> 301
 <211> 22
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 301
 ccatgtatta ctgtgcgaga aa 22

<210> 302
 <211> 69
 <212> DNA
 <213> Unknown Organism

<220>
 <223> Description of Unknown Organism: Kappa FR1 GLGs

<400> 302
 gacatccaga tgaccagtc tccatcctcc ctgtctgcat ctgtaggaga cagagtcacc 60
 atcattgc 69

<210> 303
 <211> 66
 <212> DNA
 <213> Unknown Organism

<220>
 <223> Description of Unknown Organism: Lambda FR1 GLG
 sequence

<400> 303
 cagtctgtgc tgactcagcc accctcgggtg tctgaagccc ccaggcagag ggtcaccatc 60
 tcctgt 66

<210> 304
 <211> 668

<212> DNA

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: h3401-h2

<400> 304

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agtgcacaag acatccagat gacccagtct ccagccaccc tgtctgtgtc tccaggggaa 60
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cagaaacctg gccagggttc caggctcctc atctatggtg catccaccag ggccactgat 180
atcccagcca gggtcagtg cagtgggtct gggacagact tcactctcac catcagcaga 240
ctggagcctg aagatcttgc agtgtattac tgtcagcggg atggtagctc accgggggtgg 300
acgttcggcc aagggaacaa ggtggaaatc aaacgaactg tggctgcacc atctgtcttc 360
atcttcccgc catctgatga gcagttgaaa tctggaactg cctctgttgt gtgcctgctg 420
aataacttct atcccagaga ggccaaagta cagtggaagg tggataacgc cctccaatcg 480
ggtaactccc aggagagtgt cacagagcag gacagcaagg acagcaccta cagcctcagc 540
agcaccctga cgctgagcaa agcagactac gagaaacaca aagtctacgc ctgcgaagtc 600
acccatcagg gcctgagctc gcctgtcaca aagagcttca acaaaggaga gtgtaagggc 660
gaattcgc

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<210> 305

<211> 223

<212> PRT

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: h3401-h2

<400> 305

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Ser Ala Gln Asp Ile Gln Met Thr Gln Ser Pro Ala Thr Leu Ser Val
 1      5      10      15
Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val
      20      25      30
Ser Asn Asn Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Val Pro Arg
      35      40      45
Leu Leu Ile Tyr Gly Ala Ser Thr Arg Ala Thr Asp Ile Pro Ala Arg
      50      55      60
Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg
      65      70      75      80
Leu Glu Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Arg Tyr Gly Ser
      85      90      95
Ser Pro Gly Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys Arg
      100      105      110
Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln
      115      120      125
Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr
      130      135      140
Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser

```

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<210> 306
<211> 700
<212> DNA
<213> Unknown Organism
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<223> Description of Unknown Organism: h3401-d8 KAPPA

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tgcaatcttc	tcagcaactt	agcctggtac	cagcagaaac	ctggccaggc	tcccaggctc	180
ctcatctatg	gtgcttccac	cggggccatt	ggtatcccag	ccagggttcag	tggcagttggg	240
tctgggacag	agttcactct	caccatcagc	agcctgcagt	ctgaagattt	tgcatgtgat	300
tctctgcagc	agtatggtac	ctcaccgccc	actttcggcg	gagggaccaa	ggtggagatc	360
aaacgaactg	tggctgcacc	atctgtcttc	atcttcccgc	catctgatga	gcagttgaaa	420
tctggaactg	cctctgttgt	gtgcccgctg	aataacttct	atcccagaga	ggccaaagta	480
cagtgggaagg	tggataacgc	cctccaatcg	ggtaactccc	aggagagtgt	cacagagcag	540
gacaacaagg	acagcaccta	cagcctcagc	agcaccttga	cgtctgagcaa	agtagactac	600
gagaaacacg	aagtcctacg	ctgcgaagtc	accatcagg	gccttagctc	gcccgtcacg	660
aagagcttca	acaggggaga	gtgtaaagaaa	gaatttcgtt			700

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<210> 307
<211> 222
<212> PRT
<213> Unknown Organism
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<223> Description of Unknown Organism: h3401-d8 KAPPA

Ser	Ala	Gln	Asp	Ile	Gln	Met	Thr	Gln	Ser	Pro	Ala	Thr	Leu	Ser	Val
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Ser	Pro	Gly	Glu	Arg	Ala	Thr	Leu	Ser	Cys	Arg	Ala	Ser	Gln	Asn	Leu
			20					25					30		
Leu	Ser	Asn	Leu	Ala	Trp	Tyr	Gln	Gln	Lys	Pro	Gly	Gln	Ala	Pro	Arg
		35					40					45			
Leu	Leu	Ile	Tyr	Gly	Ala	Ser	Thr	Gly	Ala	Ile	Gly	Ile	Pro	Ala	Arg
	50					55					60				

Phe Ser Gly Ser Gly Ser Gly Thr Glu Phe Thr Leu Thr Ile Ser Ser
 65 70 75 80
 Leu Gln Ser Glu Asp Phe Ala Val Tyr Phe Cys Gln Gln Tyr Gly Thr
 85 90 95
 Ser Pro Pro Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys Arg Thr
 100 105 110
 Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu
 115 120 125
 Lys Ser Gly Thr Ala Ser Val Val Cys Pro Leu Asn Asn Phe Tyr Pro
 130 135 140
 Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly
 145 150 155 160
 Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Asn Lys Asp Ser Thr Tyr
 165 170 175
 Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Val Asp Tyr Glu Lys His
 180 185 190
 Glu Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val
 195 200 205
 Thr Lys Ser Phe Asn Arg Gly Glu Cys Lys Lys Glu Phe Val
 210 215 220

<210> 308

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 308

gctgtgtatt actgtgcgag cacatccgtg ttgttcacgg atgtg

45

<210> 309

<211> 45

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 309

gccgtgtatt actgtgcgag cacatccgtg ttgttcacgg atgtg

45

<210> 310
<211> 45
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 310
gccgtatatt actgtgcgag cacatccgtg ttgttcacgg atgtg 45

<210> 311
<211> 45
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 311
gccgtgtatt actgtacgag cacatccgtg ttgttcacgg atgtg 45

<210> 312
<211> 45
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 312
gccatgtatt actgtgcgag cacatccgtg ttgttcacgg atgtg 45

<210> 313
<211> 88
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 313
aatagtagac tgcagtgtcc tcagccctta agctgttcac ctgcaagtag agagtattct 60
tagagttgtc tctagactta gtgaagcg 88

<210> 314
<211> 95

<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 314

cgcttcacta agtctagaga caactctaag aatactctct acttgcagat gaacagctta 60
agggctgagg acactgcagt ctactattgt gcgag 95

<210> 315

<211> 95

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 315

cgcttcacta agtctagaga caactctaag aatactctct acttgcagat gaacagctta 60
agggctgagg acactgcagt ctactattgt acgag 95

<210> 316

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 316

cgcttcacta agtctagaga caac 24

<210> 317

<211> 44

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 317

cacatccgtg ttgttcacgg atgtgggagg atggagactg ggtc 44

<210> 318

<211> 44

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

oligonucleotide

<400> 318
cacatccgtg ttgttcacgg atgtgggaga gtggagactg agtc 44

<210> 319
<211> 44
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 319
cacatccgtg ttgttcacgg atgtgggtgc ctggagactg cgtc 44

<210> 320
<211> 44
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 320
cacatccgtg ttgttcacgg atgtgggtgg ctggagactg cgtc 44

<210> 321
<211> 34
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 321
cctctactct tgtcacagtg cacaagacat ccag 34

<210> 322
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 322
cctctactct tgtcacagtg 20

<210> 323
<211> 44
<212> DNA
<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 323
ggaggatgga ctggatgtct tgtgcactgt gacaagagta gagg 44

<210> 324
<211> 44
<212> DNA
<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 324
ggagagtgga ctggatgtct tgtgcactgt gacaagagta gagg 44

<210> 325
<211> 44
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 325
ggtgcctgga ctggatgtct tgtgcactgt gacaagagta gagg 44

<210> 326
<211> 44
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 326
ggtggctgga ctggatgtct tgtgcactgt gacaagagta gagg 44

<210> 327
<211> 44
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 327

cacatccgtg ttgttcacgg atgtggatcg actgtccagg agac

44

<210> 328

<211> 44

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 328

cacatccgtg ttgttcacgg atgtggactg tctgtcccaa ggcc

44

<210> 329

<211> 44

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 329

cacatccgtg ttgttcacgg atgtggactg actgtccagg agac

44

<210> 330

<211> 44

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 330

cacatccgtg ttgttcacgg atgtggaccc tctgccctgg ggcc

44

<210> 331

<211> 59

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 331

cctctgactg agtgcacaga gtgctttaac ccaaccggct agtgtagcg gttccccgg 59

<210> 332
<211> 69
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 332
cctctgactg agtgcacaga gtgctttaac ccaaccggct agtggttagcg gttccccggg 60
acagtcgat 69

<210> 333
<211> 69
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 333
cctctgactg agtgcacaga gtgctttaac ccaaccggct agtggttagcg gttccccggg 60
acagacagt 69

<210> 334
<211> 69
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 334
cctctgactg agtgcacaga gtgctttaac ccaaccggct agtggttagcg gttccccggg 60
acagtcagt 69

<210> 335
<211> 70
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 335
cctctgactg agtgcacaga gtgctttaac ccaaccggct agtggttagcg gtstccccgg 60
ggcagagggt 70

<210> 336
<211> 24
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 336
cctctgactg agtgcacaga gtgc 24

<210> 337
<211> 20
<212> DNA
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<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 337
gggaggatgg agactgggtc 20

<210> 338
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 338
gggaagatgg agactgggtc 20

<210> 339
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 339
gggagagtgg agactgagtc 20

<210> 340
<211> 20
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 340

gggtgcctgg agactgcgtc

20

<210> 341

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 341

gggtggctgg agactgcgtc

20

<210> 342

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 342

gggagtctgg agactgggtc

20

<210> 343

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 343

gggaggatgg agactgggtc atctggatgt cttgtgcact gtgacagagg

50

<210> 344

<211> 50

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 344

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50

<210> 345
<211> 50
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 345
gggagagtgg agactgggtc atctggatgt cttgtgcact gtgacagagg 50

<210> 346
<211> 50
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 346
gggtgcctgg agactgggtc atctggatgt cttgtgcact gtgacagagg 50

<210> 347
<211> 50
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 347
gggtggctgg agactgggtc atctggatgt cttgtgcact gtgacagagg 50

<210> 348
<211> 50
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 348
gggagtctgg agactgggtc atctggatgt cttgtgcact gtgacagagg 50

<210> 349
<211> 42
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 349

cctctgtcac agtgcacaag acatccagat gacccagtct cc 42

<210> 350

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 350

cctctgtcac agtgcacaag ac 22

<210> 351

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 351

acactctccc ctgttgaagc tctt 24

<210> 352

<211> 912

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 352

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gaccgactgc	ttgagcaaaa	gccacgctta	actgctgata	aggcatggga	tggtattcgc	120
caaaccagtc	gtcaggatct	taacctgagg	ctttttttac	ctactctgca	agcagcgaca	180
tctggtttga	cacagagcga	tccgcgtcgt	cagttggtag	aaacattaac	acgttgggat	240
ggcatcaatt	tgtttaatga	tgatggtaaa	acctggcagc	agccaggctc	tgccatcctg	300
aacgtttggc	tgaccagtat	gttgaagcgt	accgtagtgg	ctgccgtacc	tatgccattt	360
gataagtggg	acagcgccag	tggctacgaa	acaaccaggg	acggcccaac	tggttcgctg	420
aatataagtg	ttggagcaaa	aattttgtat	gagggcgggc	agggagacaa	atcaccaatc	480
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cctgcaatgg	ccttaacggt	ccgggcaaat	aatttctttg	gtgtaccgca	ggccgcagcg	660
gaagaaacgc	gtcatcaggc	ggagtatcaa	aaccgtggaa	cagaaaacga	tatgattggt	720
ttctcaccaa	cgacaagcga	tcgtcctgtg	cttgccctggg	atgtggtcgc	acccggtcag	780

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agtggggttta ttgctcccca tggaacagtt gataagcact atgaagatca gctgaaaatg 840
tacgaaaatt ttggccgtaa gtcgctctgg ttaacgaagc aggatgtgga ggcgcataag 900
gagtcgtcta ga                                     912

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<210> 353

<211> 6680

<212> DNA

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: pCES5

<400> 353

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tctaaataca ttcaaataatg tatccgctca tgagacaata accctgataa atgcttcaat 180
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actattctca gaatgacttg gttgagtact caccagtcac agaaaagcat cttacggatg 540
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<223> Description of Unknown Organism: pCES5

<400> 354

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Phe Cys Leu Pro Val Phe Ala His Pro Glu Thr Leu Val Lys Val Lys
          20              25              30

Asp Ala Glu Asp Gln Leu Gly Ala Arg Val Gly Tyr Ile Glu Leu Asp
      35              40              45

Leu Asn Ser Gly Lys Ile Leu Glu Ser Phe Arg Pro Glu Glu Arg Phe
 50              55              60

Pro Met Met Ser Thr Phe Lys Val Leu Leu Cys Gly Ala Val Leu Ser
 65              70              75              80

Arg Ile Asp Ala Gly Gln Glu Gln Leu Gly Arg Arg Ile His Tyr Ser
          85              90              95

Gln Asn Asp Leu Val Glu Tyr Ser Pro Val Thr Glu Lys His Leu Thr
      100              105              110

Asp Gly Met Thr Val Arg Glu Leu Cys Ser Ala Ala Ile Thr Met Ser
      115              120              125

Asp Asn Thr Ala Ala Asn Leu Leu Leu Thr Thr Ile Gly Gly Pro Lys
      130              135              140

Glu Leu Thr Ala Phe Leu His Asn Met Gly Asp His Val Thr Arg Leu
      145              150              155              160

Asp Arg Trp Glu Pro Glu Leu Asn Glu Ala Ile Pro Asn Asp Glu Arg
          165              170              175

Asp Thr Thr Met Pro Val Ala Met Ala Thr Thr Leu Arg Lys Leu Leu
      180              185              190

Thr Gly Glu Leu Leu Thr Leu Ala Ser Arg Gln Gln Leu Ile Asp Trp

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195	200	205
Met Glu Ala Asp Lys Val Ala Gly Pro Leu Leu Arg Ser Ala Leu Pro		
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Ala Gly Trp Phe Ile Ala Asp Lys Ser Gly Ala Gly Glu Arg Gly Ser		
225	230	235 240
Arg Gly Ile Ile Ala Ala Leu Gly Pro Asp Gly Lys Pro Ser Arg Ile		
	245	250 255
Val Val Ile Tyr Thr Thr Gly Ser Gln Ala Thr Met Asp Glu Arg Asn		
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Arg Gln Ile Ala Glu Ile Gly Ala Ser Leu Ile Lys His Trp		
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<400> 355

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His Ser Ala Gln Val Gln Leu Gln Val Asp Leu Glu Ile Lys Arg Gly		
	20	25 30
Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln		
	35	40 45
Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr		
50	55	60
Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser		
65	70	75 80
Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr		
	85	90 95
Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys		
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His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro		
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Val Thr Lys Ser Phe Asn Arg Gly Glu Cys		
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 Ala Gln Pro Ala Met Ala Glu Val Gln Leu Leu Glu Ser Gly Gly Gly
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 Leu Val Gln Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly
 35 40 45

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 Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln Met Asn Ser Leu
 1 5 10 15
 Ser Leu Ser Ile Arg Ser Gly Gln His Ser Pro Thr
 20 25

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 1 5 10 15
 Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr
 20 25 30
 Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
 35 40 45
 Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
 50 55 60
 Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr
 65 70 75 80
 Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys

	85		90		95
Lys Val Glu Pro Lys Ser Cys Ala Ala Ala His His His His His His	100	105	110		
Gly Ala Ala Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu Asn Gly Ala	115	120	125		

Ala

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<211> 404

<212> PRT

<213> Unknown Organism

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Thr Val Glu Ser Cys Leu Ala Lys Pro His Thr Glu Asn Ser Phe Thr	1	5	10	15
Asn Val Trp Lys Asp Asp Lys Thr Leu Asp Arg Tyr Ala Asn Tyr Glu	20	25	30	
Gly Cys Leu Trp Asn Ala Thr Gly Val Val Val Cys Thr Gly Asp Glu	35	40	45	
Thr Gln Cys Tyr Gly Thr Trp Val Pro Ile Gly Leu Ala Ile Pro Glu	50	55	60	
Asn Glu Gly Gly Gly Ser Glu Gly Gly Gly Ser Glu Gly Gly Gly Ser	65	70	75	80
Glu Gly Gly Gly Thr Lys Pro Pro Glu Tyr Gly Asp Thr Pro Ile Pro	85	90	95	
Gly Tyr Thr Tyr Ile Asn Pro Leu Asp Gly Thr Tyr Pro Pro Gly Thr	100	105	110	
Glu Gln Asn Pro Ala Asn Pro Asn Pro Ser Leu Glu Glu Ser Gln Pro	115	120	125	
Leu Asn Thr Phe Met Phe Gln Asn Asn Arg Phe Arg Asn Arg Gln Gly	130	135	140	
Ala Leu Thr Val Tyr Thr Gly Thr Val Thr Gln Gly Thr Asp Pro Val	145	150	155	160
Lys Thr Tyr Tyr Gln Tyr Thr Pro Val Ser Ser Lys Ala Met Tyr Asp	165	170	175	
Ala Tyr Trp Asn Gly Lys Phe Arg Asp Cys Ala Phe His Ser Gly Phe	180	185	190	
Asn Glu Asp Pro Phe Val Cys Glu Tyr Gln Gly Gln Ser Ser Asp Leu	195	200	205	

Pro Gln Pro Pro Val Asn Ala Gly Gly Gly Ser Gly Gly Gly Ser Gly
 210 215 220
 Gly Gly Ser Glu Gly Gly Gly Ser Glu Gly Gly Gly Ser Glu Gly Gly
 225 230 235 240
 Gly Ser Glu Gly Gly Gly Ser Gly Gly Gly Ser Gly Ser Gly Asp Phe
 245 250 255
 Asp Tyr Glu Lys Met Ala Asn Ala Asn Lys Gly Ala Met Thr Glu Asn
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 Ala Asp Glu Asn Ala Leu Gln Ser Asp Ala Lys Gly Lys Leu Asp Ser
 275 280 285
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 Ser Gly Leu Ala Asn Gly Asn Gly Ala Thr Gly Asp Phe Ala Gly Ser
 305 310 315 320
 Asn Ser Gln Met Ala Gln Val Gly Asp Gly Asp Asn Ser Pro Leu Met
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 340 345 350
 Arg Pro Tyr Val Phe Gly Ala Gly Lys Pro Tyr Glu Phe Ser Ile Asp
 355 360 365
 Cys Asp Lys Ile Asn Leu Phe Arg Gly Val Phe Ala Phe Leu Leu Tyr
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<211> 69

<212> DNA

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<223> Description of Unknown Organism: Kappa FR1 GLGs

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<210> 363

<211> 69

<212> DNA

<213> Unknown Organism

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<223> Description of Unknown Organism: Kappa FR1 GLGs

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<213> Unknown Organism

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atcacttgc 69

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69

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atcacttgt 69

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atcacttgt 69

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atcacttgc 69

<210> 370

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<223> Description of Unknown Organism: Kappa FR1 GLGs

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<210> 371

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<210> 372

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<223> Description of Unknown Organism: Kappa FR1 GLGs

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<210> 374

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<223> Description of Unknown Organism: Kappa FR1 GLGs

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atcagttgt 69

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<210> 377
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atctcctgc 69

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atctcctgc 69

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<223> Description of Unknown Organism: Kappa FR1 GLGs

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<212> DNA

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<223> Description of Unknown Organism: Kappa FR1 GLGs

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<211> 69

<212> DNA

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<223> Description of Unknown Organism: Kappa FR1 GLGs

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<213> Unknown Organism

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<223> Description of Unknown Organism: Kappa FR1 GLGs.

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ctctcctgc

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<212> DNA

<213> Unknown Organism

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<223> Description of Unknown Organism: Kappa FR1 GLGs

<400> 388

gaaattgtgt tgacgcagtc tccagccacc ctgtctttgt ctccagggga aagagccacc 60
 ctctcctgc 69

<210> 389

<211> 69

<212> DNA

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: Kappa FR1 GLGs

<400> 389

gaaatagtga tgacgcagtc tccagccacc ctgtctgtgt ctccagggga aagagccacc 60
 ctctcctgc 69

<210> 390

<211> 69

<212> DNA

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: Kappa FR1 GLGs

<400> 390

gaaatagtga tgacgcagtc tccagccacc ctgtctgtgt ctccagggga aagagccacc 60
 ctctcctgc 69

<210> 391

<211> 69

<212> DNA

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: Kappa FR1 GLGs

<400> 391

gaaattgtgt tgacacagtc tccagccacc ctgtctttgt ctccagggga aagagccacc 60
 ctctcctgc 69

<210> 392

<211> 69

<212> DNA
 <213> Unknown Organism

<220>

<223> Description of Unknown Organism: Kappa FR1 GLGs

<400> 392
 gaaattgtgt tgacacagtc tccagccacc ctgtctttgt ctccagggga aagagccacc 60
 ctctcctgc 69

<210> 393
 <211> 69
 <212> DNA
 <213> Unknown Organism

<220>

<223> Description of Unknown Organism: Kappa FR1 GLGs

<400> 393
 gaaattgtaa tgacacagtc tccagccacc ctgtctttgt ctccagggga aagagccacc 60
 ctctcctgc 69

<210> 394
 <211> 69
 <212> DNA
 <213> Unknown Organism

<220>

<223> Description of Unknown Organism: Kappa FR1 GLGs

<400> 394
 gacatcgtga tgaccagtc tccagactcc ctggctgtgt ctctgggcga gagggccacc 60
 atcaactgc 69

<210> 395
 <211> 69
 <212> DNA
 <213> Unknown Organism

<220>

<223> Description of Unknown Organism: Kappa FR1 GLGs

<400> 395
 gaaacgacac tcaagcagtc tccagcattc atgtcagcga ctccaggaga caaagtcaac 60
 atctcctgc 69

<210> 396
 <211> 69
 <212> DNA
 <213> Unknown Organism

<220>

<223> Description of Unknown Organism: Kappa FR1 GLGs

<400> 396
 gaaattgtgc tgactcagtc tccagacttt cagtctgtga ctccaaagga gaaagtcacc 60
 atcacctgc 69

<210> 397
 <211> 69
 <212> DNA
 <213> Unknown Organism

<220>
 <223> Description of Unknown Organism: Kappa FR1 GLGs

<400> 397
 gaaattgtgc tgactcagtc tccagacttt cagtctgtga ctccaaagga gaaagtcacc 60
 atcacctgc 69

<210> 398
 <211> 69
 <212> DNA
 <213> Unknown Organism

<220>
 <223> Description of Unknown Organism: Kappa FR1 GLGs

<400> 398
 gatgttgtga tgacacagtc tccagctttc ctctctgtga ctccagggga gaaagtcacc 60
 atcacctgc 69

<210> 399
 <211> 66
 <212> DNA
 <213> Unknown Organism

<220>
 <223> Description of Unknown Organism: Lambda FR1 GLG
 sequence

<400> 399
 cagtctgtgc tgacgcagcc gccctcagtg tctggggccc cagggcagag ggtcaccatc 60
 tctctgc 66

<210> 400
 <211> 66
 <212> DNA
 <213> Unknown Organism

<220>
 <223> Description of Unknown Organism: Lambda FR1 GLG
 sequence

<400> 400
 cagtctgtgc tgactcagcc accctcagcg tctgggaccc ccgggcagag ggtcaccatc 60

tcttgt

66

<210> 401

<211> 66

<212> DNA

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: Lambda FR1 GLG
sequence

<400> 401

cagtctgtgc tgactcagcc accctcagcg tctgggaccc ccgggcagag ggtcaccatc 60
tcttgt 66

<210> 402

<211> 66

<212> DNA

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: Lambda FR1 GLG
sequence

<400> 402

cagtctgtgt tgacgcagcc gccctcagtg tctgcggccc caggacagaa ggtcaccatc 60
tcctgc 66

<210> 403

<211> 66

<212> DNA

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: Lambda FR1 GLG
sequence

<400> 403

cagtctgccc tgactcagcc tccttcagcg tccgggtctc ctggacagtc agtcaccatc 60
tcctgc 66

<210> 404

<211> 66

<212> DNA

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: Lambda FR1 GLG
sequence

<400> 404

cagtctgccc tgactcagcc tcgctcagtg tccgggtctc ctggacagtc agtcaccatc 60

tctctgc

66

<210> 405

<211> 66

<212> DNA

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: Lambda FR1 GLG
sequence

<400> 405

cagtctgccc tgactcagcc tgcctccgtg tctgggtctc ctggacagtc gatcaccatc 60
tctctgc 66

<210> 406

<211> 66

<212> DNA

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: Lambda FR1 GLG
sequence

<400> 406

cagtctgccc tgactcagcc tccctccgtg tccgggtctc ctggacagtc agtcaccatc 60
tctctgc 66

<210> 407

<211> 66

<212> DNA

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: Lambda FR1 GLG
sequence

<400> 407

cagtctgccc tgactcagcc tgcctccgtg tctgggtctc ctggacagtc gatcaccatc 60
tctctgc 66

<210> 408

<211> 66

<212> DNA

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: Lambda FR1 GLG
sequence

<400> 408

tcctatgagc tgactcagcc accctcagtg tccgtgtccc caggacagac agccagcatc 60

acctgc

66

<210> 409

<211> 66

<212> DNA

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: Lambda FR1 GLG
sequence

<400> 409

tcctatgagc tgactcagcc actctcagtg tcagtggccc tgggacagac ggccaggatt 60
acctgt 66

<210> 410

<211> 66

<212> DNA

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: Lambda FR1 GLG
sequence

<400> 410

tcctatgagc tgacacagcc accctcggtg tcagtgtccc caggacaaac ggccaggatc 60
acctgc 66

<210> 411

<211> 66

<212> DNA

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: Lambda FR1 GLG
sequence

<400> 411

tcctatgagc tgacacagcc accctcggtg tcagtgtccc taggacagat ggccaggatc 60
acctgc 66

<210> 412

<211> 66

<212> DNA

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: Lambda FR1 GLG
sequence

<400> 412

tcttctgagc tgactcagga cctgtgtgtg tctgtggcct tgggacagac agtcaggatc 60

acatgc

66

<210> 413

<211> 66

<212> DNA

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: Lambda FR1 GLG
sequence

<400> 413

tcctatgtgc tgactcagcc accctcagtg tcagtggccc caggaaagac ggccaggatt 60
acctgt 66

<210> 414

<211> 66

<212> DNA

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: Lambda FR1 GLG
sequence

<400> 414

tcctatgagc tgacacagct accctcggtg tcagtgtccc caggacagac agccaggatc 60
acctgc 66

<210> 415

<211> 66

<212> DNA

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: Lambda FR1 GLG
sequence

<400> 415

tcctatgagc tgatgcagcc accctcggtg tcagtgtccc caggacagac ggccaggatc 60
acctgc 66

<210> 416

<211> 66

<212> DNA

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: Lambda FR1 GLG
sequence

<400> 416

tcctatgagc tgacacagcc atcctcagtg tcagtgtctc cgggacagac agccaggatc 60

acctgc

66

<210> 417

<211> 66

<212> DNA

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: Lambda FR1 GLG
sequence

<400> 417

ctgcctgtgc tgactcagcc cccgtctgca tctgccttgc tgggagcctc gatcaagctc 60
acctgc 66

<210> 418

<211> 66

<212> DNA

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: Lambda FR1 GLG
sequence

<400> 418

cagcctgtgc tgactcaatc atcctctgccc tctgcttccc tgggagcctc ggtcaagctc 60
acctgc 66

<210> 419

<211> 66

<212> DNA

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: Lambda FR1 GLG
sequence

<400> 419

cagcttgtgc tgactcaatc gccctctgccc tctgcctccc tgggagcctc ggtcaagctc 60
acctgc 66

<210> 420

<211> 66

<212> DNA

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: Lambda FR1 GLG
sequence

<400> 420

cagcctgtgc tgactcagcc accttcctcc tccgcatctc ctggagaatc cgccagactc 60

acctgc

66

<210> 421

<211> 66

<212> DNA

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: Lambda FR1 GLG
sequence

<400> 421

caggctgtgc tgactcagcc ggcttcctc tctgcatctc ctggagcatc agccagtctc 60
acctgc 66

<210> 422

<211> 66

<212> DNA

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: Lambda FR1 GLG
sequence

<400> 422

cagcctgtgc tgactcagcc atcttcccat tctgcatctt ctggagcatc agtcagactc 60
acctgc 66

<210> 423

<211> 66

<212> DNA

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: Lambda FR1 GLG
sequence

<400> 423

aattttatgc tgactcagcc ccactctgtg tcggagtctc cggggaagac ggtaaccatc 60
tctgc 66

<210> 424

<211> 66

<212> DNA

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: Lambda FR1 GLG
sequence

<400> 424

cagactgtgg tgactcagga gccctcactg actgtgtccc caggagggac agtcactctc 60

acctgt

66

<210> 425

<211> 66

<212> DNA

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: Lambda FR1 GLG
sequence

<400> 425

caggctgtgg tgactcagga gccctcactg actgtgtccc caggagggac agtcactctc 60
acctgt 66

<210> 426

<211> 66

<212> DNA

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: Lambda FR1 GLG
sequence

<400> 426

cagactgtgg tgaccagga gccatcggtc tcagtgtccc ctggagggac agtcacactc 60
acttgt 66

<210> 427

<211> 66

<212> DNA

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: Lambda FR1 GLG
sequence

<400> 427

cagcctgtgc tgactcagcc accttctgca tcagcctccc tgggagcctc ggtcacactc 60
acctgc 66

<210> 428

<211> 66

<212> DNA

<213> Unknown Organism

<220>

<223> Description of Unknown Organism: Lambda FR1 GLG
sequence

<400> 428

caggcagggc tgactcagcc accctcggtg tccaagggct tgagacagac cgccacactc 60

acctgc